

**THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION**

THE HILLMAN GROUP, INC.,	§	
	§	
v.	§	CASE NO. 2:19-CV-209-JRG
	§	
KEYME, LLC	§	

CLAIM CONSTRUCTION
MEMORANDUM AND ORDER

Before the Court is the Opening Claim Construction Brief (Dkt. No. 142) filed by Plaintiff The Hillman Group, Inc. (“Plaintiff” or “Hillman”). Also before the Court is the Responsive Claim Construction Brief (Dkt. No. 151) filed by Defendant KeyMe, LLC (“Defendant” or “KeyMe”) as well as Plaintiff’s reply (Dkt. No. 154).

The Court held a hearing on June 23, 2020.

Table of Contents

I. BACKGROUND.....	2
II. LEGAL PRINCIPLES	3
III. AGREED TERMS.....	7
IV. DISPUTED TERMS.....	8
A. “configured to replicate the tooth pattern of the blade of said key inserted in said key receiving entry”	8
B. “configured to cut the selected key blank to duplicate a key tooth pattern of the master key”	16
C. “configured to . . . cut the determined biting pattern into a key blank”	18
D. “at least one duplicate,” “key duplication process,” and “duplicated key”	21
E. “to determine whether the inserted key matches one of a group of preselected key types”	22
F. “key analysis system . . .”	27
G. “queue of key duplication events”	35
H. “key duplicating system . . .”	40
V. CONCLUSION.....	44

I. BACKGROUND

Plaintiff alleges infringement of United States Patents No. 8,979,446 (the “’446 Patent”), 9,914,179 (the “’179 Patent”), and 10,400,474 (the “’474 Patent”) (collectively, “the patents-in-suit”). (Dkt. No. 142, Exs. 1–3). Plaintiff submits that “[t]he inventions and the machines involved in this litigation represent the culmination of years of technological advances aimed at automating the once cumbersome and inconvenient key cutting process.” (Dkt. No. 142, at 2.) Defendant contends that “the asserted claims are directed to a particular technique for duplicating keys, called ‘trace cutting,’ which involves making an identical copy of the tooth profile of the customer’s key.” (Dkt. No. 151, at 1.) Plaintiff disputes Defendant’s contention, as discussed regarding the disputed claim terms construed herein.

The ’446 Patent, titled “Fully Automatic Self-Service Key Duplicating,” issued on March 17, 2015, and bears an earliest priority date of June 3, 2010. The ’446 Patent was originally assigned to Minute Key Inc. (“Minute Key”). The Abstract of the ’446 Patent states:

A self-service, fully-automatic kiosk for duplicating keys includes a kiosk housing having a customer interface for receiving payment from a customer for the purchase of at least one duplicate of the customer’s key. A key-receiving entry in the housing receives at least a portion of the customer’s key to be duplicated, and a key analysis system within the housing analyzes the blade of a key inserted in the key-receiving entry to determine whether the inserted key matches one of a group of preselected key types and, if so, which preselected key type is matched. A key blank magazine within the housing stores key blanks for each of the preselected key types. A key blank extraction system extracts from the magazine a key blank for the preselected key type matched by the blade of the key inserted in the key-receiving entry. Then a key duplicating system within the kiosk replicates the tooth pattern of the blade of the key inserted in the key-receiving entry, on the blade of the extracted key blank.

The ’179 Patent, titled “Self Service Key Duplicating Machine with Automatic Key Model Identification System,” issued on March 13, 2018, and bears an earliest priority date of

November 28, 2006. The '179 Patent was originally assigned to Minute Key. The Abstract of the '179 Patent states:

A method of duplicating a key includes receiving a master key in a key duplicating machine. The machine automatically detects a cross sectional profile of the master key. The machine automatically determines, based on the detected cross sectional profile, a type and model of the master key. The machine automatically selects a key blank that matches the type and model of the master key, and then automatically cuts the selected key blank to duplicate a key tooth pattern of the master key.

The '474 Patent, titled “Identification Module for Key Making Machine,” issued on September 3, 2019, and bears an earliest priority date of August 16, 2013. Plaintiff is the original assignee of the '474 Patent. The Abstract of the '474 Patent states:

An identification module is disclosed for use in a key making machine. The identification module may have a key receiving assembly configured to receive only a shank of an existing key. The identification module may also have a tip guide, configured to receive a tip of the shank of the existing key. The tip guide may have a slot that exposes a tip end of the shank. The identification module may also have an imaging assembly configured to capture an image of the tip end through the slot.

II. LEGAL PRINCIPLES

It is understood that “[a] claim in a patent provides the metes and bounds of the right which the patent confers on the patentee to exclude others from making, using or selling the protected invention.” *Burke, Inc. v. Bruno Indep. Living Aids, Inc.*, 183 F.3d 1334, 1340 (Fed. Cir. 1999). Claim construction is clearly an issue of law for the court to decide. *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 970–71 (Fed. Cir. 1995) (en banc), *aff’d*, 517 U.S. 370 (1996).

“In some cases, however, the district court will need to look beyond the patent’s intrinsic evidence and to consult extrinsic evidence in order to understand, for example, the background science or the meaning of a term in the relevant art during the relevant time period.” *Teva*

Pharm. USA, Inc. v. Sandoz, Inc., 135 S. Ct. 831, 841 (2015) (citation omitted). “In cases where those subsidiary facts are in dispute, courts will need to make subsidiary factual findings about that extrinsic evidence. These are the ‘evidentiary underpinnings’ of claim construction that we discussed in *Markman*, and this subsidiary factfinding must be reviewed for clear error on appeal.” *Id.* (citing 517 U.S. 370).

To ascertain the meaning of claims, courts look to three primary sources: the claims, the specification, and the prosecution history. *Markman*, 52 F.3d at 979. The specification must contain a written description of the invention that enables one of ordinary skill in the art to make and use the invention. *Id.* A patent’s claims must be read in view of the specification, of which they are a part. *Id.* For claim construction purposes, the description may act as a sort of dictionary, which explains the invention and may define terms used in the claims. *Id.* “One purpose for examining the specification is to determine if the patentee has limited the scope of the claims.” *Watts v. XL Sys., Inc.*, 232 F.3d 877, 882 (Fed. Cir. 2000).

Nonetheless, it is the function of the claims, not the specification, to set forth the limits of the patentee’s invention. Otherwise, there would be no need for claims. *SRI Int’l v. Matsushita Elec. Corp.*, 775 F.2d 1107, 1121 (Fed. Cir. 1985) (en banc). The patentee is free to be his own lexicographer, but any special definition given to a word must be clearly set forth in the specification. *Intellicall, Inc. v. Phonometrics, Inc.*, 952 F.2d 1384, 1388 (Fed. Cir. 1992). Although the specification may indicate that certain embodiments are preferred, particular embodiments appearing in the specification will not be read into the claims when the claim language is broader than the embodiments. *Electro Med. Sys., S.A. v. Cooper Life Scis., Inc.*, 34 F.3d 1048, 1054 (Fed. Cir. 1994).

This Court's claim construction analysis is substantially guided by the Federal Circuit's decision in *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc). In *Phillips*, the court set forth several guideposts that courts should follow when construing claims. In particular, the court reiterated that "the claims of a patent define the invention to which the patentee is entitled the right to exclude." *Id.* at 1312 (quoting *Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1115 (Fed. Cir. 2004)). To that end, the words used in a claim are generally given their ordinary and customary meaning. *Id.* The ordinary and customary meaning of a claim term "is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention, i.e., as of the effective filing date of the patent application." *Id.* at 1313. This principle of patent law flows naturally from the recognition that inventors are usually persons who are skilled in the field of the invention and that patents are addressed to, and intended to be read by, others skilled in the particular art. *Id.*

Despite the importance of claim terms, *Phillips* made clear that "the person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification." *Id.* Although the claims themselves may provide guidance as to the meaning of particular terms, those terms are part of "a fully integrated written instrument." *Id.* at 1315 (quoting *Markman*, 52 F.3d at 978). Thus, the *Phillips* court emphasized the specification as being the primary basis for construing the claims. *Id.* at 1314–17. As the Supreme Court stated long ago, "in case of doubt or ambiguity it is proper in all cases to refer back to the descriptive portions of the specification to aid in solving the doubt or in ascertaining the true intent and meaning of the language employed in the claims." *Bates v. Coe*, 98 U.S. 31, 38 (1878). In addressing the role of the specification, the *Phillips* court quoted with approval its earlier

observations from *Renishaw PLC v. Marposs Societa' per Azioni*, 158 F.3d 1243, 1250 (Fed. Cir. 1998):

Ultimately, the interpretation to be given a term can only be determined and confirmed with a full understanding of what the inventors actually invented and intended to envelop with the claim. The construction that stays true to the claim language and most naturally aligns with the patent's description of the invention will be, in the end, the correct construction.

Phillips, 415 F.3d at 1316. Consequently, *Phillips* emphasized the important role the specification plays in the claim construction process.

The prosecution history also continues to play an important role in claim interpretation. Like the specification, the prosecution history helps to demonstrate how the inventor and the United States Patent and Trademark Office (“PTO”) understood the patent. *Id.* at 1317. Because the file history, however, “represents an ongoing negotiation between the PTO and the applicant,” it may lack the clarity of the specification and thus be less useful in claim construction proceedings. *Id.* Nevertheless, the prosecution history is intrinsic evidence that is relevant to the determination of how the inventor understood the invention and whether the inventor limited the invention during prosecution by narrowing the scope of the claims. *Id.*; see *Microsoft Corp. v. Multi-Tech Sys., Inc.*, 357 F.3d 1340, 1350 (Fed. Cir. 2004) (noting that “a patentee’s statements during prosecution, whether relied on by the examiner or not, are relevant to claim interpretation”).

Phillips rejected any claim construction approach that sacrificed the intrinsic record in favor of extrinsic evidence, such as dictionary definitions or expert testimony. The *en banc* court condemned the suggestion made by *Texas Digital Sys., Inc. v. Telegenix, Inc.*, 308 F.3d 1193 (Fed. Cir. 2002), that a court should discern the ordinary meaning of the claim terms (through dictionaries or otherwise) before resorting to the specification for certain limited purposes.

Phillips, 415 F.3d at 1319–24. According to *Phillips*, reliance on dictionary definitions at the expense of the specification had the effect of “focus[ing] the inquiry on the abstract meaning of words rather than on the meaning of claim terms within the context of the patent.” *Id.* at 1321. *Phillips* emphasized that the patent system is based on the proposition that the claims cover only the invented subject matter. *Id.*

Phillips does not preclude all uses of dictionaries in claim construction proceedings. Instead, the court assigned dictionaries a role subordinate to the intrinsic record. In doing so, the court emphasized that claim construction issues are not resolved by any magic formula. The court did not impose any particular sequence of steps for a court to follow when it considers disputed claim language. *Id.* at 1323–25. Rather, *Phillips* held that a court must attach the appropriate weight to the intrinsic sources offered in support of a proposed claim construction, bearing in mind the general rule that the claims measure the scope of the patent grant.

III. AGREED TERMS

In their May 15, 2020 Amended Joint Claim Construction and Prehearing Statement (Dkt. No. 146) and in their June 9, 2020 Joint Claim Construction Chart Under P.R. 4-5(d) (Dkt. No. 155, Ex. A), the parties submitted the following agreements:

<u>Term</u>	<u>Agreed Construction</u>
“controllable drive coupled to said magazine” (’446 Patent, Claims 9, 40, 66, 92)	“a drive motor selectively energized to control the movement of said magazine”
“a guard adjacent said key receiving entry to protect the head of a key protruding from said entry from accidental contact” (’446 Patent, Claims 22, 53, 78, 103)	“a guard adjacent to said key receiving entry to protect the head of a key inserted in the kiosk from being bumped during a key duplication process”

“configured to exchange communications” (’474 Patent, Claims 11–19)	“configured to send and receive information”
“channel profile” (’474 Patent, All Claims)	“the shapes, sizes, and/or locations of channels”
“a biting pattern of an existing key” (’474 Patent, Claims 20)	“the tooth pattern of an existing key”
“the determined biting pattern” (’474 Patent, Claims 1–19)	“the tooth pattern of the existing key determined by the imaging system”

IV. DISPUTED TERMS

A. “configured to replicate the tooth pattern of the blade of said key inserted in said key receiving entry”

<p style="text-align: center;">“configured to replicate the tooth pattern of the blade of said key inserted in said key receiving entry” (Term 1)¹ (’446 Patent, All Asserted Claims)</p>	
Plaintiff’s Proposed Construction	Defendant’s Proposed Construction
“configured to make a copy of the tooth pattern of the blade of the customer’s key inserted into said key-receiving entry”	“configured to make an identical copy of the tooth pattern of the blade of the customer’s key inserted into said key-receiving entry”

(Dkt. No. 146, App’x A, at 1; Dkt. No. 142, at 3; Dkt. No. 151, at 2; Dkt. No. 155, Ex. A, at 1.)

(1) The Parties’ Positions

Plaintiff argues that “the copy has to work in that it has to be able to operate the same lock as the master key,” but “it need not be a perfect copy, an exact copy, or an identical copy.”

¹ The “Term” numbers set forth in this Claim Construction Memorandum and Order refer to numbering used by the parties. (*See* Dkt. No. 146, App’x A; *see also* Dkt. No. 142, at 3 n.2.)

(Dkt. No. 142, at 4.) Plaintiff argues that this “common-sense understanding” is also consistent with the specification. (*Id.*, at 4; *see id.* at 4–7.) Plaintiff also emphasizes that “[t]he word ‘identical’ is nowhere to be found in any of the specifications when addressing duplicated keys, tooth patterns, or biting patterns.” (*Id.*, at 7.) Plaintiff also cites dependent claims that “include[e] a new limitation for removing certain imperfections in the copy.” (*Id.*, at 8.) Further, Plaintiff cites embodiments in which a key is cut based on a “code” associated with a master key rather than based on the master key itself, such that “any slight imperfections or nominal deviations in the master key from wear, usage, etc., will not be present in the code-cut duplicate.” (*Id.*, at 9.) Plaintiff concludes that “[a]dding a superlative (‘identical copy’) merely stacks the deck in KeyMe’s favor in a way that is inconsistent with the disclosed inventions.” (*Id.*, at 11.)

Defendant responds that mechanical trace cutting is the only disclosed technique. (Dkt. No. 151, at 2–3.) Defendant argues that different patents, not the patents-in-suit, are directed to techniques other than trace cutting, and such techniques do not necessarily reproduce the tooth pattern of a customer key. (*Id.*, at 3–5.) Defendant urges that the evidence distinguishes between replicating a key and merely producing a duplicate that will work in the same lock. (*Id.*, at 5–6.) Defendant also submits that its proposal does not exclude “minute flaws” and “does not require replicating non-*geometric* features such as material, color, or an American Flag pattern, or any feature of the key head, which is not part of the blade and does not have a tooth pattern.” (*Id.*, at 7.) Further, Defendant argues that judicial estoppel precludes Plaintiff from contesting Defendant’s proposed interpretation. (*Id.*, at 7–9.)

Plaintiff replies that “[t]here is no basis to limit all three patents to a single ‘mechanical trace cutting’ embodiment,” “[a]nd ‘mechanical trace cutting’ does not necessarily yield

‘identical copies.’” (Dkt. No. 154, at 1.) Plaintiff emphasizes that the specification discloses other duplication techniques, such as code cutting and optical trace cutting, and “[t]he specification emphasizes the standard time and again—the copied ‘bitting pattern’ must be able to open the lock, it need not be ‘identical’ to the original.” (*Id.*, at 1–2.) Plaintiff concludes: “The term ‘copy’ properly captures the scope of the inventions. As is clear from the specifications, the scope of the claims contemplate that the newly cut key (or tooth pattern or bitting pattern) can open the same lock as the original key despite recognized differences, ‘microscopic,’ ‘minute,’ aesthetic, or otherwise.” (*Id.*, at 4.)

At the June 23, 2020 hearing, Defendant argued that this disputed term does not encompass code cutting because the phrase “said key” in this disputed term refers to the inserted key, not a factory pattern. Plaintiff reiterated that the specification refers to code cutting and that code cutting has been well known in the art.

(2) Analysis

The Background of the Invention section of the ’446 Patent discloses:

Duplicate keys are typically cut from pre-existing master keys using a hand-operated table-top tool having two clamps, a cutting wheel, a follower and a cleaning wheel. There is a long-felt need for a fully automatic key identifying and/or duplicating machine that can provide a duplicate key for an ordinary consumer in a manner as easy as purchasing an item from a vending machine or receiving money from an automated teller machine.

’446 Patent at 1:19–26.

Claim 1 of the ’446 Patent, for example, recites (emphasis added):

1. A self-service kiosk for duplicating keys, comprising:
 - a kiosk housing having a customer interface configure [*sic*] to receive payment from a customer for the purchase of at least one duplicate of the customer’s key,
 - a key-receiving entry in said housing configured to receive at least a portion of the customer’s key to be duplicated, wherein the key-receiving entry

blocks insertion of the head of an inserted key so that only the blade of an inserted key extends into the kiosk housing,

a key analysis system within said housing configured to analyze the blade of a key inserted in said key-receiving entry to determine whether the inserted key matches one of a group of preselected key types and, if so, which preselected key type is matched,

a key blank magazine within said housing configured to store key blanks for each of said preselected key types,

a key blank extraction system configured to extract from said magazine a key blank for the preselected key type matched by the blade of said key inserted in said key-receiving entry,

a key duplicating system within said kiosk *configured to replicate the tooth pattern of the blade of said key inserted in said key-receiving entry*, on the blade of said extracted key blank, and

a key-removal exit in said housing providing customer access to the key with the *replicated tooth pattern* for removal from the kiosk.

The claims here at issue use “replicate” in the context of producing a key (referred to as a “duplicate”) based on an existing key (referred to as a “master” or as an “original”). A duplicate should be able to open the same locks as the master. The parties agree that the master and the duplicate can differ in various ways that do not affect the ability of the duplicate to open the same locks as the master, such as differences in material and differences in aesthetic design. For example, the specification refers to “key blanks of . . . different styles (plain brass, colored flag pattern, colored flower pattern, etc.).” ’446 Patent at 6:10–13; *see id.* at 13:36–38 (“different styles”).

The parties also agree that the duplicate need not be perfectly identical to the master. This understanding is consistent with disclosures and dependent claims regarding “de-burring” a newly cut key. *See, e.g.,* ’446 Patent at Cl. 11; *id.* at 17:45–52 (“the tooth edges of the key blank that are first engaged by the de-burring wheel 141 are the edges last engaged by the cutting wheel 131, which are the edges that contain any burrs or other debris remaining from the cutting operation”). This understanding is also consistent with evidence cited by Plaintiff that a

duplication process can correct for flaws in a master key. (*See* Dkt. No. 142, Ex. 13, U.S. Patent No. 8,682,468 at Fig. 8.)

Defendant’s proposal of “identical” is therefore potentially misleading and confusing. Indeed, in prior instances the Court has found that absolutes in claim constructions are disfavored. *See, e.g., Colorquick, LLC v. Eastman Kodak Co.*, No. 6:06-CV-390, 2008 WL 5771324, at *14 (E.D. Tex. June 25, 2008) (Love, J.) (“Using the word ‘identical’ implies a level of perfect correlation that is not necessarily always possible between an image on a screen and a printed document.”).

The parties dispute whether a duplicate can be produced merely from information about the master or rather must be produced by physically tracing the tooth pattern² of the master (sometimes referred to as “mechanical trace cutting”). The key issue, so to speak, is whether “replicate” encompasses techniques other than trace cutting, such as “code cutting.” Code cutting involves matching the master with a manufacturing code and then cutting the duplicate based on tooth pattern information associated with the code.³ Defendant urges that “replicate” is limited to tracing.

² The “tooth pattern” of a key can interact with pins inside a lock so as to enable the lock to be turned by the key. The “tooth pattern” is sometimes referred as a “bitting pattern.”

³ Plaintiff cites numerous references regarding code cutting (Dkt. No. 142, at 8 n.4):

See, e.g., [Dkt. No. 142,] Ex. 5 (U.S. Patent No. 2,731,087 (col. 1:22–23) (disclosing an invention “to cut keys after an established pattern or code with regard to the depth and location of the bits to be formed on the key blank”)); Ex. 6 (U.S. Patent No. 5,271,698 (col. 35:28–31) (“creating a duplicate key by using factory numerical or alphanumeric key duplicating codes”)); Ex. 7 (U.S. Patent No. 5,676,504 (describing extensive art relating to creating “a duplicate key” using code-cutting from numerical codes associated with the master key (col. 1:5–2:64) and disclosing a “key cutting machine [that] can electronically duplicate a bit notch pattern defined by a key code without reference to the master key bit notch pattern” (col. 3:5–7))); Ex. 8 (Marc Weber Tobias, *Locks, Safes, and*

Defendant emphasizes disclosures that relate to mechanical tracing, such as disclosure of using a “follower”:

FIG. 58 is a diagrammatic plan view of a master key clamped for engagement by a *follower* and a key blank clamped to be cut to *reproduce the tooth profile of the master key*.

* * *

Key duplication requires analysis of the master key to determine the model and tooth pattern of the master key, and then reproducing that tooth pattern on a key blank of the same model as the master key. It is generally necessary to have the master key stationary and to firmly hold the key blank while reproducing the tooth pattern.

'446 Patent at 4:4–7 & 4:32–37 (emphasis added); *see id.* at 16:38–45 (“Thus, the cutting wheel 131 cuts a tooth pattern in the clamped key blank B that reproduces the tooth pattern of the master key K”) & 17:3–13 (“the carrier 134 moves the follower along the blade of the master key K, and the blade of the key blank B across the cutting wheel 131, to cut a tooth pattern in the key blank that reproduces the tooth pattern of the master key”); *see also id.* at Figs. 58–59.

The specification also discloses:

While particular embodiments and applications of the present invention have been illustrated and described, it is to be understood that the invention is not limited to the precise construction and compositions disclosed herein and that various modifications, changes, and variations may be apparent from the foregoing descriptions without departing from the spirit and scope of the invention as defined in the appended claims. For example, the master key inserted by the customer could be analyzed and *matched to an original code that is then used to control the cutting of the duplicate key(s), rather than using the master key as a real-time pattern for cutting the duplicate*.

'446 Patent at 20:58–21:2 (emphasis added). The '446 Patent cites various references that disclose techniques related to producing a duplicate key other than mechanical trace cutting.

Security, An International Police Reference, 160, § 4.3.3 “Duplicating Keys by Code” (2nd ed. 2000)); Ex. 9 (Lockwiki); Ex. 10 (Wikipedia).

(*See id.* at p. 2 (citing references); *see also* Dkt. No. 151, Ex. A, U.S. Patent No. 5,676,504 (“Mueller”) at 2:66–3:7; *id.*, Ex. B, U.S. Patent No. 5,807,042 (“Almblad”) at 4:33–37; *id.* at Exs. C & D.) For example, the “Marsh” reference discloses inferring the “factory specifications of the bitting of the to-be-copied key” and cutting “to these factory specifications instead of merely replicating the original key’s bitting profile.” (*Id.*, Ex. D, U.S. Patent No. 8,682,468 at 10:66–11:5; *see id.*, Ex. C, U.S. Patent No. 6,064,747 (“Wills”) at 2:17–27 (“the depths of the cuts . . . are modified to be the closest or most likely cut depth from the factory specifications”).)

Defendant cites authority that the claims need not necessarily encompass all embodiments. *See TIP Sys., LLC v. Phillips & Brooks/Gladwin, Inc.*, 529 F.3d 1364, 1373 (Fed. Cir. 2008) (“Our precedent is replete with examples of subject matter that is included in the specification, but is not claimed.”); *see also SRI Int’l v. Matsushita Elec. Corp. of Am.*, 775 F.2d 1107, 1121 (Fed. Cir. 1985) (“If everything in the specification were required to be read into the claims . . . there would be no need for claims.”).

Nonetheless, Defendant fails to demonstrate that the word “replicate” warrants excluding techniques that produce a duplicate key without tracing a master key, particularly given that the above-cited intrinsic evidence demonstrates that a duplicate key can serve its purpose without having been trace cut. Defendant argues that the above-reproduced disclosure contrasts code cutting with “using the master as a real-time pattern for cutting the duplicate.” ’446 Patent at 20:58–21:2. Any such contrast between trace cutting and code cutting embodiments, however, does not warrant interpreting the disputed term as excluding code cutting.

Finally, Defendant also cites positions taken by Plaintiff in relation to litigation in the Southern District of Ohio in 2013. In that litigation, Minute Key asserted United States Patent No. 8,532,809 (“the ’809 patent”) (Dkt. No. 151, Ex. G). The ’809 Patent resulted from a

continuation of a continuation-in-part of the application that issued as the '446 Patent. The '809 Patent is thus related to the '446 Patent. Claim 1 of the '809 Patent includes language that is identical to the present disputed term in the '446 Patent except that Claim 1 of the '809 Patent uses the phrase “for replicating” instead of the phrase “configured to replicate.” Defendant submits that in a letter from Plaintiff to Wal-Mart Stores Inc. (one of Plaintiff’s customers), Plaintiff stated as follows regarding the recited “key duplication [*sic*] system” (this letter became an exhibit to the Complaint in the Ohio action):

Hillman’s structure for duplicating a key is also significantly different than the structure in the '809 patent that corresponds to the “key duplication system.” Minute Key’s corresponding structure includes a mechanical tracing system similar to what you may recall seeing in hardware store environments where a mechanical tracer follows the contours of the customer’s key while an attached cutting wheel cuts the same pattern into a key blank. Hillman does not use a mechanical tracer. Thus, unlike the Minute Key '809 patent, there is no follower that traces the contour of the customer’s key. Instead, numerically controlled motors move a cutting wheel to replicate the electronically enhanced image of the cut pattern. This is not a mechanical tracing operation with a follower. Hillman’s structure is not the same as, or equivalent to, the disclosed structure for mechanically tracing a key.

(Dkt. No. 151, Ex. H, Sept. 18, 2013 Letter, at 7 (p. 16 of 29 of Ex. H).) Defendant submits that “those claims resolved prior to claim construction.” (Dkt. No. 151, at 8.)

Defendant argues that judicial estoppel applies to prevent Plaintiff from “deliberately changing positions according to the exigencies of the moment.” *Hall v. GE Plastic Pac. PTE Ltd.*, 327 F.3d 391, 400 (5th Cir. 2003) (citation and internal quotation marks omitted). The *Hall* case, however, noted that for judicial estoppel to apply, not only must the party’s current position be inconsistent with a previous positions but also “that party must have convinced the court to accept that previous position.” *Id.* at 396. Even assuming for the sake of argument that Plaintiff’s current position is inconsistent with its previous position, Defendant fails to show that

the Southern District of Ohio adopted any relevant claim construction position put forth by Plaintiff.

Based on all of the foregoing, the Court hereby expressly rejects Defendant’s proposal and arguments regarding excluding code cutting. That is, Defendant fails to demonstrate that the disputed term sets forth any limitation as to permissible replication techniques, such as mechanical trace cutting, optical trace cutting, or code cutting. Instead, as set forth in one of the above-discussed passages (which the parties discussed at length at the June 23, 2020 hearing), the disputed term explains merely that the tooth pattern of the duplicate matches the tooth pattern of the master. ’446 Patent at 20:58–21:2.

The Court therefore hereby construes **“configured to replicate the tooth pattern of the blade of said key inserted in said key receiving entry”** to mean **“configured to make a copy that matches the tooth pattern of the blade of the customer’s key inserted into said key-receiving entry.”**

B. “configured to cut the selected key blank to duplicate a key tooth pattern of the master key”

<p align="center">“configured to cut the selected key blank to duplicate a key tooth pattern of the master key” (Term 13) (’179 Patent, All Asserted Claims)</p>	
Plaintiff’s Proposed Construction	Defendant’s Proposed Construction
“configured to cut the selected key blank to make a copy of a key tooth pattern of the master key”	“configured to cut the selected key blank to make an identical copy of a key tooth pattern of the master key”

(Dkt. No. 146, App’x A, at 2; Dkt. No. 142, at 3; Dkt. No. 151, at 9; Dkt. No. 155, Ex. A, at 2.)

(1) The Parties' Positions

Plaintiff argues this term together with the “configured to replicate . . .” term, which is addressed above. (*See* Dkt. No. 142, at 3–12.)

Defendant responds that, much like for the above-addressed “configured to replicate . . .” term that appears in claims of the ’446 Patent, “the intrinsic record clearly distinguishes duplicating the tooth pattern of a customer’s key from other techniques that do not duplicate the tooth pattern.” (Dkt. No. 151, at 10.)

Plaintiff replies as to this term together with the “configured to replicate . . .” term addressed above. (*See* Dkt. No. 154, at 1–5.)

(2) Analysis

The parties agree that this “configured to cut . . . to duplicate . . .” term presents substantially the same dispute as the “configured to replicate . . .” term addressed above. Indeed, this use of “duplicate” rather than “replicate” presents an even stronger case for rejecting Defendant’s proposal of requiring trace cutting. The disclosures cited by Defendant, regarding particular embodiments that use mechanical trace cutting, do not compel otherwise. *See* ’179 Patent at 7:28–31 & 9:59–63.

The specification is consistent with this understanding. *See, e.g.*, ’179 Patent at 2:18–20 (“obtain *accurate* duplicate keys”) (emphasis added), 2:57–3:8 (“secure a blank key to be cut at the key cutting module *in accordance with* the tooth pattern of a clamped master key”) (emphasis added), 5:39–41 (same) & 7:55–57 (similar). Further, as to extrinsic evidence, Plaintiff submits a technical dictionary that defines “duplicate” merely as “to copy.” (Dkt. No. 142, Ex. 12, *The Professional Locksmith Dictionary* 25 (2006).)

Defendant contends that “the intrinsic record clearly distinguishes *duplicating* the tooth pattern of a customer’s key from other techniques that do not *duplicate* the tooth pattern” (Dkt. No. 151, at 10 (emphasis added)), but the meaning of “duplicate” is the crux of the dispute. Defendant fails to demonstrate that “duplicating” is limited to trace cutting and excludes, for example, code cutting (discussed above as to the “configured to replicate . . .” term).

Finally, the Court rejects Defendant’s judicial estoppel argument for the same reasons set forth as to the “configured to replicate . . .” term addressed above.

The Court therefore hereby construes **“configured to cut the selected key blank to duplicate a key tooth pattern of the master key”** to mean **“configured to cut the selected key blank to make a copy that matches a key tooth pattern of the master key.”**

C. “configured to . . . cut the determined biting pattern into a key blank”

“configured to . . . cut the determined biting pattern into a key blank” (Term 21) (’474 Patent, Claims 1–19)	
Plaintiff’s Proposed Construction	Defendant’s Proposed Construction
“configured to . . . make a copy of the tooth pattern of the existing key determined by the imaging system”	“configured to . . . make an identical copy of the tooth pattern of the existing key determined by the imaging system”

(Dkt. No. 146, App’x A, at 2; Dkt. No. 142, at 4; Dkt. No. 151, at 11–12; Dkt. No. 155, Ex. A, at 2.)

(1) The Parties’ Positions

Plaintiff argues this term together with the “configured to replicate . . .” term, which is addressed above. (*See* Dkt. No. 142, at 3–12.)

Defendant responds that this term should be construed consistent with the above-addressed “configured to replicate . . .” and “configured to cut . . . to duplicate . . .” terms. (*See* Dkt. No. 151, at 11–14.) Defendant submits that the parties agree that “bitting pattern” is synonymous with “tooth pattern,” and “[t]his tooth pattern is meant to be an identical copy, because the specific bitting pattern of the customer’s original key is to be cut, not just any tooth pattern that operates the same lock.” (Dkt. No. 151, at 12.)

Plaintiff replies as to this term together with the “configured to replicate . . .” term addressed above. (*See* Dkt. No. 154, at 1–5.)

(2) Analysis

Claim 1 of the ’474 Patent, for example, recites (emphasis added)

1. A key making machine, comprising:
 - a housing;
 - an identification system, wherein the identification system includes:
 - a slot opening in the housing configured to receive only the shank of an existing key;
 - a transponder sensor located at or around the slot opening configured to detect the presence of a transponder within the head of the existing key and to read a transponder code associated with the detected transponder; and
 - an imaging system comprising one or more light sources and one or more receivers, *wherein the imaging system is configured to determine at least one feature selected from the group of features consisting of a bitting pattern of the existing key and a channel profile of the existing key;*
 - a fabrication system, wherein the fabrication system is configured to:*
 - receive a key blank that the identification system has determined to be associated with the existing key;
 - receive *information associated with the determined bitting pattern* from the identification system; and
 - cut the determined bitting pattern into a key blank;* and
 - a user interface associated with the housing,
 - wherein the user interface includes a touch screen, and

wherein the user interface is configured to provide status information to a user regarding a key duplication process.

The claim thus recites determining a biting pattern and cutting the determined biting pattern into a key blank. The claim nowhere recites that the “bitting pattern of the existing key” must precisely represent the physical features of the existing key, and Defendant fails to demonstrate any definition or disclaimer in this regard. On the contrary, the specification refers to applying a pattern “corresponding to the lock intended to receive [the] blade,” and a user turning the blade can “caus[e] an associated lock to turn and open or close.” ’474 Patent at 3:56–4:4; *see id.* at 9:49–10:14, 10:48–59 & 11:42–45. This notion of functional equivalence is also referred to as avoiding “mis-cuts” (a “mis-cut” is a duplicate key that cannot open the same locks as the original key). (*See id.* at 1:28–38, 2:7–26 & 19:18–19).

Defendant cites the “Wills” reference (U.S. Patent No. 6,064,747) that is cited by the ’474 Patent (*see* ’474 Patent at p. 2). Wills discloses “backlighting the master key” to “obtain[] information about the bitting pattern.” (Dkt. No. 151, Ex. C, Wills at 2:8–16.) Defendant identifies nothing in Wills that requires bitting pattern information to precisely match the physical features of the master key.

The Court therefore hereby construes **“configured to . . . cut the determined bitting pattern into a key blank”** to mean **“configured to . . . make a copy that matches the tooth pattern of the existing key determined by the imaging system.”**

D. “at least one duplicate,” “key duplication process,” and “duplicated key”

<p style="text-align: center;">“at least one duplicate” (Term 3) (’446 Patent, All Asserted Claims)</p>	
Plaintiff’s Proposed Construction	Defendant’s Proposed Construction
“at least one copy of”	Plain and ordinary meaning
<p style="text-align: center;">“key duplication process” (Term 22) (’474 Patent, Claims 1–19)</p>	
Plaintiff’s Proposed Construction	Defendant’s Proposed Construction
“process of making a copy of a key”	Plain and ordinary meaning
<p style="text-align: center;">“duplicated key” (Term 26) (’474 Patent, Claims 7, 19)</p>	
Plaintiff’s Proposed Construction	Defendant’s Proposed Construction
“a copy of a key”	Plain and ordinary meaning

(Dkt. No. 146, App’x A, at 1–3; Dkt. No. 142, at 3–4; Dkt. No. 151, at 14; Dkt. No. 155, at 1 & 3.)

(1) The Parties’ Positions

Plaintiff argues these terms together with the “configured to replicate . . .” term, which is addressed above. (*See* Dkt. No. 142, at 3–12.) Plaintiff notes that Defendant previously proposed that these terms require an “identical copy,” and Plaintiff submits that Defendant has not disavowed its position that these terms require “identical” copies. (Dkt. No. 142, at 3 n.1.)

Defendant responds that “[t]hese three terms all use ‘duplicate’ in the general sense to describe a key, not the tooth pattern of an existing key, and are part of limitations that are largely not in dispute.” (Dkt. No. 151, at 14.)

Plaintiff replies that “KeyMe [has] never disavowed its position that the terms require an ‘identical copy.’” (Dkt. No. 154, at 4 n.3.)

(2) Analysis

The parties’ positions as to these terms are intertwined with their proposals as to the above-addressed “configured to . . .” terms. Apart from the analysis set forth as to those terms, above, Plaintiff fails to show that any construction is necessary as to “at least one duplicate,” “key duplication process,” and “duplicated key.” To the extent, if any, Defendant maintains that these terms require an “identical” copy, the Court hereby expressly rejects any such interpretation.

The Court accordingly hereby construes **“at least one duplicate,” “key duplication process,”** and **“duplicated key”** to have their **plain meaning**.

E. “to determine whether the inserted key matches one of a group of preselected key types”

“to determine whether the inserted key matches one of a group of preselected key types” (Term 5) (’446 Patent, All Claims)	
Plaintiff’s Proposed Construction	Defendant’s Proposed Construction
Plain and ordinary meaning	“to determine whether the inserted key matches one of the key types that the key analysis system is capable of identifying”

(Dkt. No. 146, App’x A, at 2; Dkt. No. 142, at 22; Dkt. No. 151, at 15; Dkt. No. 155, Ex. A, at 2.)

(1) The Parties' Positions

Plaintiff argues: “Hillman can only assume that KeyMe’s proposed construction here represents an alternative or fallback position should the Court determine that §112, ¶6 does not apply. Even so, KeyMe’s proposed construction is redundant and unnecessary.” (Dkt. No. 142, at 23.

Defendant responds that “the preselected key types are the key types stored inside the key blank magazine in the kiosk; and the ‘key analysis system’ must determine whether the inserted key matches the available key blanks for preselected types.” (Dkt. No. 151, at 16.) Defendant submits that “[a]bsent [Defendant’s] construction, the jury could incorrectly conclude that the claims do not require the machine to store key blanks that correspond to every type of key that its key analysis system is capable of identifying.” (*Id.*, at 18.)

Plaintiff replies that Defendant’s proposal “would sharply limit the scope of an entirely different term—the ‘key blank magazine’ that stores key blanks—a term that has not even been proposed for construction.” (Dkt. No. 154, at 5.) Plaintiff also argues that “[b]y the very claim language, the ‘key blank magazine’ is not required to store every key type the ‘key analysis system’ is capable of identifying (e.g., the ‘key analysis system’ could be configured to determine that a particular inserted key matches a key type that is not in the group of ‘preselected key types’; that would be a determination of ‘whether’ it matches the ‘preselected key types’ just as the claim states).” (*Id.*, at 6 n.4.)

At the June 23, 2020 hearing, Defendant urged that the key analysis system cannot identify non-preselected key types. Plaintiff responded that there is no reason that the key analysis system cannot be capable of *more* than what is required by the claim.

(2) Analysis

As a threshold matter, Plaintiff argues that Defendant's arguments as to this term are inconsistent with Defendant's arguments and positions as to the "key analysis system . . ." term discussed below. (*See* Dkt. No. 142, at 22–23.) No inconsistency is apparent. The dispute as to the present term is a dispute as to part of the claimed function of the "key analysis system . . ." term (if that term is found to be governed by 35 U.S.C. § 112(f), as argued by Defendant, which is discussed as to that term below). *See, e.g., Medtronic, Inc. v. Advanced Cardiovascular Sys., Inc.*, 248 F.3d 1303, 1311 (Fed. Cir. 2001) ("The first step in construing such a limitation [governed by 35 U.S.C. § 112(f)] is a determination of the function of the . . . limitation.").

Claim 1 of the '446 Patent, for example, is representative as to the limitations at issue and recites (emphasis added):

1. A self-service kiosk for duplicating keys, comprising:

a kiosk housing having a customer interface configure [*sic*] to receive payment from a customer for the purchase of at least one duplicate of the customer's key,

a key-receiving entry in said housing configured to receive at least a portion of the customer's key to be duplicated, wherein the key-receiving entry blocks insertion of the head of an inserted key so that only the blade of an inserted key extends into the kiosk housing,

a key analysis system within said housing configured to analyze the blade of a key inserted in said key-receiving entry *to determine whether the inserted key matches one of a group of preselected key types* and, if so, which preselected key type is matched,

a key blank magazine within said housing configured to *store key blanks for each of said preselected key types*,

a key blank extraction system configured to *extract from said magazine a key blank for the preselected key type* matched by the blade of said key inserted in said key-receiving entry,

a key duplicating system within said kiosk configured to replicate the tooth pattern of the blade of said key inserted in said key-receiving entry, on the blade of said extracted key blank, and

a key-removal exit in said housing providing customer access to the key with the replicated tooth pattern for removal from the kiosk.

Because the claim separately requires a key blank magazine configured to “store key blanks for each of said preselected key types,” Defendant’s proposed interpretation that the machine must “store key blanks that correspond to every type of key that its key analysis system is capable of identifying” is confusing. (Dkt. No. 151, at 18.) The above-reproduced claim recites a key analysis system configured to “determine whether the inserted key matches one of a group of preselected key types and, *if so*, which preselected key type is matched.” This “if so” language implies that the key analysis system might determine that the inserted key does *not* match one of the group of preselected key types.

Admittedly, the specification refers to using sensors to determine if a key can be duplicated and “match[ing] against only preselected profiles”:

Because only a limited number of different types of key blanks can be stored in the kiosk, the cross-sectional profile of the profile master key is matched against only preselected profiles, which are the profiles for which blanks are available in the kiosk.

* * *

If the combination of output signals from the four sensors 67–70 does not correspond to one of the preselected key types, the kiosk controller changes the display to the screen that informs the customer that the key inserted by the customer cannot be duplicated by the kiosk and that the customer should remove the key, and the master key clamp is released to permit removal of the key.

’446 Patent at 12:37–41 & 13:26–32; *see id.* at 9:46–49 (“While the master key K is being inserted into the kiosk, a pair of sensors produce signals that are used by the controller to determine whether the master key is possibly a type that can be duplicated by the kiosk.”), 13:9–21 & 13:30–38.

Nonetheless, these disclosures do not preclude the key analysis system from identifying a key type that is not among the group of preselected key types. In other words, a determination that “the combination of output signals from the four sensors 67–70 does not correspond to one

of the preselected key types” (*id.*) does not preclude those output signals from being associated with a key type that is not among the preselected key types.

Defendant also cites Plaintiff’s arguments in a petition for Inter Partes Review as to the ’446 Patent. Defendant notes that Plaintiff submitted the opinion of an expert that a “key analysis system” determines whether a customer’s key “matches one of a group of preselected key types stored in a magazine in the kiosk.” (Dkt. No. 151, Ex. L, May 5, 2015 Heredia Decl., at ¶ 22.) Such opinions and arguments, however, merely repeat what is set forth in the above-discussed claim language and in the Summary of the Invention of the ’446 Patent. *See* ’446 Patent at 1:34–41 (“A key blank magazine within the housing stores key blanks for each of the preselected key types.”). Defendant also notes that the Patent Trial and Appeal Board (“PTAB”), in its Final Written Decision, noted that “preselected” means “preselected by the designer of the machine at the time the machine was designed.” (Dkt. No. 152, Ex. M, Nov. 14, 2016 Decision, at 11.) This does not, however, amount to adopting any purported argument that would limit the “preselected key types” in the claims to the particular key blanks stored in a magazine in a kiosk.

Based on the foregoing, the Court hereby expressly rejects Defendant’s proposed construction. No further construction is necessary. *See O2 Micro Int’l Ltd. v. Beyond Innovation Tech. Co.*, 521 F.3d 1351, 1362 (Fed. Cir. 2008) (“[D]istrict courts are not (and should not be) required to construe every limitation present in a patent’s asserted claims.”); *see also Finjan, Inc. v. Secure Computing Corp.*, 626 F.3d 1197, 1207 (Fed. Cir. 2010) (“Unlike *O2 Micro*, where the court failed to resolve the parties’ quarrel, the district court rejected Defendants’ construction.”); *ActiveVideo Networks, Inc. v. Verizon Commcn’s, Inc.*, 694 F.3d

1312, 1326 (Fed. Cir. 2012); *Summit 6, LLC v. Samsung Elecs. Co., Ltd.*, 802 F.3d 1283, 1291 (Fed. Cir. 2015).

The Court accordingly hereby construes **“to determine whether the inserted key matches one of a group of preselected key types”** to have its **plain meaning**.

F. “key analysis system . . .”

<p>“a key analysis system within said housing configured to analyze the blade of a key inserted in said key-receiving entry to determine whether the inserted key matches one of a group of preselected key types and, if so, which preselected key type is matched” (Term 4) (’446 Patent, All Claims)</p>	
Plaintiff’s Proposed Construction	Defendant’s Proposed Construction
<p>Hillman disputes that this is a means-plus-function term pursuant to 35 U.S.C. § 112(6). The claim phrase should be given its plain and ordinary meaning.</p> <p>In the event that the Court determines that 35 U.S.C. § 112(6) applies:</p> <p>The parties agree on the following function: Function: analyzing the blade of a key inserted in said key-receiving entry to determine whether the inserted key matches one of a group of preselected key types, and, if so, which preselected key type is matched</p> <p>Hillman proposes the following structure: Structure: optical devices, mechanical devices, and electronic scanning devices</p>	<p>Subject to 35 U.S.C. § 112(6).</p> <p>Function: analyzing the blade of a key inserted in said key-receiving entry to determine whether the inserted key matches one of a group of preselected key types, and, if so, which preselected key type is matched</p> <p>Structure: a mechanical cross-section detector as disclosed in [0017] in U.S. Patent Publication No. 2008/0145163, incorporated by reference at 12:33–36 of the ’446 patent, and as disclosed in the ’446 patent at Figures 29 and 30 and at 12:33 to 13:38, and equivalents thereof”</p>

(Dkt. No. 146, App’x A, at 1–2; Dkt. No. 142, at 12; Dkt. No. 151, at 18; Dkt. No. 155, Ex. A, at 1–2.)

(1) The Parties' Positions

Plaintiff argues that “[t]he claim language alone connotes structure in and of itself,” and “the claimed system simply matches the cross-sectional profile of the ‘inserted key’ with well known cross-sectional profiles of ‘preselected key types.’” (Dkt. No. 142, at 14 & 15.) Plaintiff also submits that “[t]he objectives and operations of the ‘key analysis system’ (i.e., determining and matching the respective cross-sections of keys) are explicitly set forth in the claim language.” (*Id.*, at 16.) Further, Plaintiff argues that “[t]he specification discloses optical sensors, optical and electronic scanning devices, and mechanical devices; all of which belong to the known class of structures connoted by the ‘key analysis system’ (i.e., structures that can make the simple cross-sectional determination in the context of the above-noted claim limitations, operations, and objectives).” (*Id.*) Finally, Plaintiff cites prosecution history in which the patentee amended the claims to replace “for” with “configured to” with the aim of “making it more clear that the elements are not intended as means-plus-function limitations.” (*Id.*, at 18 (citation omitted).) Alternatively, Plaintiff argues that Defendant’s narrow proposal for corresponding structure should be rejected because “[t]here is simply no reason to embrace the mechanical embodiment for determining cross-section profiles but ignore and exclude the directly corresponding optical and electronic scanning device embodiments.” (*Id.*, at 22.)

Defendant responds that “the limitation is drafted in the same format as a traditional means-plus-function limitation,” and “the term ‘system’ is a ‘nonce’ word that serves here as a generic placeholder much like the word ‘means.’” (Dkt. No. 151, at 19 & 20.) Defendant also argues that “[t]he changes made by the patentee to its claims (using ‘configured to’ instead of ‘for’) during prosecution that accompanied its statement still followed the traditional format of means plus function limitations and failed to impart structure.” (*Id.*, at 22.) As to corresponding

structure, Defendant responds that “Hillman’s proposed language will cover every structure imaginable for performing the recited functions.” (*Id.*, at 25.)

Plaintiff replies by reiterating its opening arguments and by emphasizing that Defendant bears a burden to overcome the presumption against applying 35 U.S.C. § 112(f) to this term. (*See* Dkt. No. 154, at 6–8.)

At the June 23, 2020 hearing, Plaintiff argued that this limitation must be construed as a whole, in the context of the claim as a whole, in the context of the specification as a whole. Plaintiff urged that the claim provides context by reciting that only the blade is inserted and, therefore, the key analysis system performs no analysis of the key head. Defendant responded that Plaintiff’s reliance on the blade as providing structural context is akin to arguing that the parts of a telescope include the stars being viewed. As to the prosecution history, Defendant urged that the statements Plaintiff relies upon were gratuitous statements by the patentee. In other words, Defendant argued, because the patentee gave up nothing by making those statements, those statements should not be persuasive.

(2) Analysis

Title 35 U.S.C. § 112(f) (formerly § 112, ¶ 6)⁴ provides: “An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.” “In exchange for using this form of claiming, the patent specification must disclose with sufficient particularity the corresponding structure for performing the claimed function and

⁴ Plaintiff notes that the application that issued as the ’446 Patent pre-dates the reformatting of 35 U.S.C. § 112, but the relevant substance of the statute was not changed.

clearly link that structure to the function.” *Triton Tech of Tex., LLC v. Nintendo of Am., Inc.*, 753 F.3d 1375, 1378 (Fed. Cir. 2014).

“[T]he failure to use the word ‘means’ . . . creates a rebuttable presumption . . . that § 112[(f)] does not apply.” *Williamson v. Citrix Online LLC*, 792 F.3d 1339, 1348 (Fed. Cir. 2015) (citations and internal quotation marks omitted). “When a claim term lacks the word ‘means,’ the presumption can be overcome and § 112[(f)] will apply if the challenger demonstrates that the claim term fails to recite sufficiently definite structure or else recites function without reciting sufficient structure for performing that function.” *Id.* at 1349 (citations and internal quotation marks omitted). “In determining whether this presumption has been rebutted, the challenger must establish by a preponderance of the evidence that the claims are to be governed by § 112[(f)].” *Advanced Ground Info. Sys., Inc. v. Life360, Inc.*, 830 F.3d 1341, 1347 (Fed. Cir. 2016).

Williamson, in an *en banc* portion of the decision, abrogated prior statements that the absence of the word “means” gives rise to a “strong” presumption against means-plus-function treatment. 792 F.3d at 1349 (citation omitted). *Williamson* also abrogated prior statements that this presumption “is not readily overcome” and that this presumption cannot be overcome “without a showing that the limitation essentially is devoid of anything that can be construed as structure.” *Id.* (citations omitted). Instead, *Williamson* found, “[h]enceforth, we will apply the presumption as we have done prior to *Lighting World* . . .” *Id.* (citing *Lighting World, Inc. v. Birchwood Lighting, Inc.*, 382 F.3d 1354, 1358 (Fed. Cir. 2004)). In a subsequent part of the decision not considered *en banc*, *Williamson* affirmed the district court’s finding that the term “distributed learning control module” was a means-plus-function term that was indefinite

because of lack of corresponding structure, and in doing so *Williamson* stated that “‘module’ is a well-known nonce word.” 792 F.3d at 1350.

Defendant cites the following portion of the Manual of Patent Examining Procedure:

The following is a list of non-structural generic placeholders that may invoke 35 U.S.C. 112(f) or pre-AIA 35 U.S.C. 112, paragraph 6: “mechanism for,” “module for,” “device for,” “unit for,” “component for,” “element for,” “member for,” “apparatus for,” “machine for,” or “*system for*.”

(Dkt. No. 151, Ex. N, *Manual of Patent Examining Procedure* § 2181(I.A) (rev. 8, Jan. 2018) (emphasis added).)

But even assuming for the sake of argument that the word “system,” as used in the claims at issue, does not itself connote structure, *Williamson* explained that “the presence of modifiers” may connote structure. 792 F.3d at 1351. Defendant does not contest that key types are structural in nature. The phrase “key analysis” connotes structure when read in the context of surrounding claim language regarding the blade of an inserted key. Claim 1 of the ’446 Patent, for example, is representative as to the limitations at issue and recites (emphasis added):

1. A self-service kiosk for duplicating keys, comprising:
 - a kiosk housing having a customer interface configure [*sic*] to receive payment from a customer for the purchase of at least one duplicate of the customer’s key,
 - a key-receiving entry in said housing configured to receive at least a portion of the customer’s key to be duplicated, wherein the key-receiving entry blocks insertion of the head of an inserted key so that only the blade of an inserted key extends into the kiosk housing,
 - a key analysis system within said housing configured to analyze the blade of a key inserted in said key-receiving entry to determine whether the inserted key matches one of a group of preselected key types and, if so, which preselected key type is matched,*
 - a key blank magazine within said housing configured to store key blanks for each of said preselected key types,
 - a key blank extraction system configured to extract from said magazine a key blank for the preselected key type matched by the blade of said key inserted in said key-receiving entry,

a key duplicating system within said kiosk configured to replicate the tooth pattern of the blade of said key inserted in said key-receiving entry, on the blade of said extracted key blank, and

a key-removal exit in said housing providing customer access to the key with the replicated tooth pattern for removal from the kiosk.

The specification is consistent with this context, disclosing that “the blade of the master key can have one of several different cross-sectional profiles, and identifying the profile of the master key effectively determines what type of key it is.” ’446 Patent at 12:33–36; *see id.* at 12:33–13:38. Plaintiff also cites disclosure in United States Patent Application Publication No. 2008/0145163 (the “’163 Application”)⁵ regarding a “master key identification module” that can evaluate key length and key cross-sectional profile such as by using “sliding elements . . . that can slide to and away from the key” or that “may include an optical or electronic scanning device.” (Dkt. No. 142, Ex. 4, at ¶¶ 74–75 & 97.) This evidence reinforces that key analysis systems are a known class of structures in the relevant art. *See Skky, Inc. v. MindGeek, s.a.r.l.*, 859 F.3d 1014, 1119 (Fed. Cir. 2017) (finding “wireless device means” not a means-plus-function term, noting that “it is sufficient if the claim term is used in common parlance or by persons of skill in the pertinent art to designate structure, even if the term covers a broad class of structures and even if the term identifies the structures by their function”) (quoting *TecSec, Inc. v. Int’l Bus. Machs. Corp.*, 731 F.3d 1336, 1347 (Fed. Cir. 2013)).

Moreover, several dependent claims include structural limitations implying that the “key analysis system” recited in Claim 1 has structure. Claims 2–6 of the ’446 Patent recite (emphasis added):

2. The self-service kiosk of claim 1 in which said key analysis system includes *sensors* that produce signals representing parameters related to the length of the blade of the inserted key.

⁵ The ’446 Patent cites the ’163 Application. *See* ’446 Patent at 12:33–35.

3. The self service kiosk of claim 1 in which said key analysis system includes *sensors* that produce signals indicating the presence of grooves at preselected locations across the width of the blade of the inserted key.
4. The self-service kiosk of claim 1 in which said key analysis system includes position *sensors* that produce signals indicating the location of mutually orthogonal surfaces on the inserted key.
5. The self-service kiosk of claim 3 in which said key analysis system includes an automatic *alignment and clamping mechanism* for precisely positioning and clamping the blade of a key inserted in said slot, and a *controller* receiving the signals from said position sensors and determining whether the inserted key blade is clamped in a preselected position.
6. The self-service kiosk of claim 4 in which said *controller* generates instructions to the customer to re-insert and hold the customer's key, in response to a determination that the blade of an inserted key is not in said preselected position.

These dependent claims provide further context for a person of ordinary skill in the art to understand that the recited “key analysis system” connotes structure and that the disputed term does not amount to “purely functional language” as argued by Defendant. (Dkt. No. 151, at 20 (quoting *SignTech USA, Ltd. v. Vutek, Inc.*, 174 F.3d 1352, 1356 (Fed. Cir. 1999).) This is analogous to the *TEK Global* case cited by Plaintiff:

[C]laim 26 recites the “conduits connecting the container to the compressor assembly and to an inflatable article.” SSI does not dispute that the elements connected via the conduits—i.e., the container, the compressor assembly, and the inflatable article (e.g., a tire)—each comprise definite structure. And the district court determined that the “conduit” recites “a structure” in light of the claim language. Although connoting precise physical structure is not a necessary condition to avoid § 112, ¶ 6 application, it is generally sufficient. We conclude that the language of claim 26, in and of itself, does not indicate that § 112, ¶ 6 should apply.

Even more, the dependent claims suggest that § 112, ¶ 6 does not govern. Indeed, they add limitations that either describe particular structural features or flesh out whether the term has a particular structural meaning. For example, dependent claim 27 recites “at least one of said conduits . . . comprises a hose.” And SSI does not dispute that the “hose” disclosed in the '110 patent is structural.

TEK Global, S.R.L. v. Sealant Sys. Int’l, Inc., 920 F.3d 777, 785–86 (Fed. Cir. 2019) (citations and internal quotation marks omitted).

The parties also dispute whether the patentee’s assertion during prosecution that this is not a means-plus-function term should be given weight in the Court’s analysis. (*See* Dkt. No. 142, Ex. 14, Amendment at 24 (“These amendments clarify the claims by making it more clear that the elements are not intended as means-plus-function limitations”); *see id.* at 4 (replacing “for analyzing” with “configured to analyze” in the term here at issue).) The inquiry under *Williamson* focuses on whether the claim term “fails to recite sufficiently definite structure” or “recites function without reciting sufficient structure for performing that function.” 792 F.3d at 1349 (citation and internal quotation marks omitted). “The standard is whether the words of the claim are understood by persons of ordinary skill in the art to have a sufficiently definite meaning as the name for structure.” *Id.* The patentee’s above-cited prosecution statement contains no explanation regarding the structural meaning of “key analysis system.” Nonetheless, Defendant does not show that this intent of the patentee, which is part of the intrinsic record, should be given no weight. This intent is “documented in the prosecution history,” *TEK Global*, 920 F.3d at 786, and reinforces that the phrase “key analysis system” has structural meaning.

Finally, Defendant argues for judicial estoppel based on Plaintiff’s statement in another matter that “[t]here is no structure recited in claim 1 associated with the claimed ‘key analysis system.’ Rather, the claim term is defined only by its function.” (Dkt. No. 151, Ex. H, Sept. 18, 2013 Letter, at 4.) The Court rejects Defendant’s judicial estoppel argument for the same reasons set forth above as to the “configured to . . .” terms.

Based on the foregoing, Defendant fails to rebut the presumption against applying 35 U.S.C. § 112(f). Defendant presents no alternative proposal in the event that 35 U.S.C. § 112(f) does not apply. Thus, no further construction is necessary.

The Court therefore hereby construes **“a key analysis system within said housing configured to analyze the blade of a key inserted in said key-receiving entry to determine whether the inserted key matches one of a group of preselected key types and, if so, which preselected key type is matched”** to have its **plain meaning**.

G. “queue of key duplication events”

“queue of key duplication events” (Term 25) (’474 Patent, Claims 8, 9)	
Plaintiff’s Proposed Construction	Defendant’s Proposed Construction
“a sequence of keys to be duplicated”	“list of events associated with key duplication”

(Dkt. No. 146, App’x A, at 3; Dkt. No. 142, at 23; Dkt. No. 151, at 26; Dkt. No. 155, Ex. A, at 3.)

(1) The Parties’ Positions

Plaintiff argues that “[a] mere ‘list’ that does not convey events in the order in which they are to be performed by the fabrication module would be useless to the customer or sales associate.” (Dkt. No. 142, at 24.) Plaintiff also cites disclosure in the specification regarding a “desired duplication event” and argues that “[a] person of skill in the art would be hard pressed to understand what ‘desired duplication event’ a customer could possibly have other than the duplication of a key.” (*Id.*, at 24–25 (citing ’474 Patent at 7:55–60).)

Defendant responds that “[t]he specification . . . indicates that the claimed ‘queue’ represents a list of information or options provided to the user through the touch screen.” (Dkt. No. 151, at 26.) For example, Defendant submits, “the specification contemplates that multiple events, including picking up a key or having a key delivered, might qualify as ‘key duplication events’ to be presented to the user.” (*Id.*, at 27.)

Plaintiff replies that “KeyMe ignores that a ‘queue’ . . . as used both in the specification and in common usage implies a sequence, not just any list.” (Dkt. No. 154, at 6.) Plaintiff also argues that “the specification describes the ‘duplication event’ as production of a new key.” (*Id.*)

(2) Analysis

Claims 1, 8, and 9 of the ’474 Patent recite (emphasis added):

1. A key making machine, comprising:
 - a housing;
 - an identification system, wherein the identification system includes:
 - a slot opening in the housing configured to receive only the shank of an existing key;
 - a transponder sensor located at or around the slot opening configured to detect the presence of a transponder within the head of the existing key and to read a transponder code associated with the detected transponder; and
 - an imaging system comprising one or more light sources and one or more receivers, *wherein the imaging system is configured to determine at least one feature selected from the group of features consisting of a biting pattern of the existing key and a channel profile of the existing key;*
 - a fabrication system, wherein the fabrication system is configured to:*
 - receive a key blank that the identification system has determined to be associated with the existing key;
 - receive information associated with the determined biting pattern from the identification system; and
 - cut the determined biting pattern into a key blank;* and
 - a user interface associated with the housing,
 - wherein the user interface includes a touch screen, and

wherein the user interface is configured to provide status information to a user regarding a key duplication process.

* * *

8. The key making machine of claim 1, wherein the key making machine is configured to generate a *queue of key duplication events*.

9. The key making machine of claim 8, wherein the key making machine is further configured to *transmit information associated with the queue to the user interface for display*.

The specification discloses:

It is contemplated that data associated with a particular *duplication event* may be stored for later use, if desired. For example, after *completion of a first duplication event*, the customer may desire that the associated identification of blade 12 and profile measurements of the existing master key be stored. Then at a later time, with or without the master key, the customer may be able to retrieve this stored data and then *complete a second duplication event*.

'474 Patent at 22:12–23 (emphasis added). This disclosure regarding “complet[ing]” duplication events is consistent with interpreting “key duplication event” in this context as referring to duplicating a key. Although this interpretation of “event” seemingly differs from the usage of the word “event” in common parlance, “patentees frequently use terms idiosyncratically,” and “determining the ordinary and customary meaning of the claim requires examination of terms that have a particular meaning in a field of art.” *Phillips*, 415 F.3d at 1314.

This understanding is consistent with disclosure regarding storing the most commonly used key blanks “closest to the front of the dispensing system” so that “actuator 144 may need to move finger 154 a shorter distance [to retrieve a key blank] *for most duplication events*, which may increase *the speed at which keys can be duplicated*.” *Id.* at 13:58–14:4 (emphasis added).

This understanding is also consistent with disclosure regarding an interface that allows a customer to “input instructions, make selections, and/or answer questions regarding a *desired*

duplication event.” ’474 Patent at 7:55–60 (emphasis added). A fair reading of the specification as a whole is that a customer desires a key, so the “desired duplication event” relates to a key rather than some more general “event associated with key duplication” as proposed by Defendant. Defendant cites subsequent disclosure regarding providing “queues and/or responses” to a customer:

The instructions, selections, and/or questions, as well as corresponding responses, may be communicated visually, audibly, and/or tactilely, as desired. For example, customer interface 108 may include a display screen (e.g., a touch screen), a key board, a mouse, a light pen, a speaker, and/or a microphone that both communicates information to the customer as well as receives input from the customer. Information received via customer interface 108 may be directed to fabrication module 104 for further processing, and fabrication module 104 may *provide queues and/or responses to the customer* via interface 108.

Id. at 8:5–16 (emphasis added); *see id.* at 7:55–8:17; *see also id.* at 11:60–12:15 (similar as to “[a]ssociate interface 132”).

Defendant fails to demonstrate how this disclosure purportedly “indicates that the claimed ‘queue’ represents a list of information or options provided to the user through the touch screen.” (Dkt. No. 151, at 26.) Defendant also argues that “picking up a key or having a key delivered[] might qualify as ‘key duplication events’ to be presented to the user” (Dkt. No. 151, at 27 (citing ’474 Patent at 7:57–61 & 11:62–65)), but such disclosures relate to “allow[ing] the customer to input instructions, make selections, and/or answer questions *regarding* a desired duplication event.” ’474 Patent at 7:55–57 (emphasis added); *see id.* at 11:60–62.

Further, the above-reproduced disclosure that a “fabrication module 104 may provide queues” is best read as referring to an ordered list of key duplication events. ’474 Patent at 8:5–16. This is consistent with disclosure that a “fabrication module” can perform “a desired key making process” and can “provide status information and/or options” regarding an ongoing

process. *Id.* at 11:19–25; *see id.* at 11:14–46. Defendant’s proposal of a mere “list” would fail to give effect to the word “queue.”

As to Plaintiff’s proposal of “keys to be duplicated,” Defendant notes that the specification refers to duplication of key blades, not necessarily full keys, and such a key blade can be used with a “separately purchased key head.” ’474 Patent at 7:55–67. On its face, however, the disputed term refers to “*key* duplication events,” and Claim 1 (from which the claims here at issue depend) recites “a fabrication system . . . configured to . . . cut the determined biting pattern into a *key* blank.”

To whatever extent Defendant argues that the disputed term necessarily requires two or more duplications, Defendant fails to demonstrate that a “queue” could not be empty or could not contain only one key duplication event, just as in common parlance a schedule of upcoming events might include multiple events, one event, or no events at all.

Finally, Defendant argues that “by limiting the term to keys ‘to be duplicated’ in the future, Hillman reads out the disclosed embodiment in which a customer views a list of past duplication events and selects one to create a further duplicate without needing to bring the original key.” (Dkt. No. 151, at 28 (citing ’474 Patent at 22:12–19).) This cited disclosure does not refer to a “queue.” The Court’s construction should refer to duplicate keys to be produced (in the present or the future) because the disputed term refers to a queue rather than to a log or some other “stored data.” ’474 Patent at 22:12–19.

The Court therefore hereby construes “**queue of key duplication events**” to mean “**an ordered list of duplicate keys to be produced.**”

H. “key duplicating system . . .”

“a key duplicating system within said kiosk configured to replicate the tooth pattern of the blade of said key inserted in said key-receiving entry” (Term 29) (’446 Patent, All Claims)	
Plaintiff’s Proposed Construction	Defendant’s Proposed Construction
<p>Hillman disputes that this is a means-plus-function term pursuant to 35 U.S.C. § 112(6). The claim phrase should be given its plain and ordinary meaning.</p> <p>In the event that the Court determines that 35 U.S.C. § 112(6) applies:</p> <p>The parties agree on the following function: Function: replicate the tooth pattern of the blade of said key inserted in said key-receiving entry</p> <p>Hillman proposes the following structure: cutting wheel 131; key-blank clamp assembly 90; and structure enabling the key blank to move in relation to the cutting wheel during cutting</p>	<p>Subject to 35 U.S.C. § 112(6).</p> <p>Function: replicate the tooth pattern of the blade of said key inserted in said key-receiving entry</p> <p>Structure: a mechanical trace-cutting system as described at Figs. 48–59 and accompanying disclosures at 16:17 to 17:52, and equivalents thereof</p>

(Dkt. No. 146, App’x A, at 3; Dkt. No. 142, at 25; Dkt. No. 151, at 28; Dkt. No. 155, Ex. A, at 3–4.)

(1) The Parties’ Positions

Plaintiff argues that “the ‘key duplicating system’ should not be treated as a means-plus-function element for all of the same reasons that the ‘key analysis system’ [(addressed above)] should not.” (Dkt. No. 142, at 25.) “Specifically,” Plaintiff argues, “(1) the claim language does not use the term ‘means,’ (2) the ‘key duplicating system’ connotes structure in and of itself, (3) the specification and the remaining claim language confirm that ‘key duplicating system’ is

structural, (4) the prosecution history expressly precludes application of §112, ¶6, (5) recitation of ‘system’ in claim language does not trigger §112, ¶6 where structure is disclosed, and (6) KeyMe’s position improperly excludes multiple disclosed embodiments.” (*Id.*, at 25–26.) Plaintiff also argues that “KeyMe’s proposed structure, to the extent it can be understood, includes dozens of additional components that do not perform the claimed function” and “limits the invention to only one of several expressly disclosed embodiments” (*Id.*, at 28 & 30.)

Defendant responds that “[t]he term ‘key duplicating system’ never appears in the specification other than as part of the recited claim language and is never described as structural or in structural terms,” and “[l]ike the ‘key analysis system’ term, this limitation is drafted in the same format as a traditional means-plus-function limitation.” (*Id.*, at 28–29.) Defendant also argues that Plaintiff’s proposed structure “noticeably omits the structures that actually ‘replicate’ the tooth pattern of the inserted key—the tracer 132 shown clearly in Figs. 56, 58 and 59, as well as in Figs. 48–53, 55, and 57, which is connected physically with the base 133 holding the key blank B, to ensure that the ‘tooth pattern’ followed by the tracer along the master key is replicated into the key blank.” (*Id.*, at 30.)

Plaintiff replies by reiterating its opening arguments and by emphasizing that Defendant bears a burden to overcome the presumption against applying 35 U.S.C. § 112(f) to this term. (*See* Dkt. No. 154, at 6–8.)

At the June 23, 2020 hearing, Defendant argued that Plaintiff proposes interpreting this term to cover anything that can make a key. Plaintiff responded that the claimed inventions relate to automation of well-known, centuries-old techniques of key duplication.

(2) Analysis

Legal principles regarding 35 U.S.C. § 112(f) are set forth above as to the “key analysis system . . .” term.

Claim 1 of the ’446 Patent, for example, recites (emphasis added):

1. A self-service kiosk for duplicating keys, comprising:

a kiosk housing having a customer interface configure [*sic*] to receive payment from a customer for the purchase of at least one duplicate of the customer’s key,

a key-receiving entry in said housing configured to receive at least a portion of the customer’s key to be duplicated, wherein the key-receiving entry blocks insertion of the head of an inserted key so that only the blade of an inserted key extends into the kiosk housing,

a key analysis system within said housing configured to analyze the blade of a key inserted in said key-receiving entry to determine whether the inserted key matches one of a group of preselected key types and, if so, which preselected key type is matched,

a key blank magazine within said housing configured to store key blanks for each of said preselected key types,

a key blank extraction system configured to extract from said magazine a key blank for the preselected key type matched by the blade of said key inserted in said key-receiving entry,

a key duplicating system within said kiosk configured to replicate the tooth pattern of the blade of said key inserted in said key-receiving entry, on the blade of said extracted key blank, and

a key-removal exit in said housing providing customer access to the key with the replicated tooth pattern for removal from the kiosk.

The claim thus provides context for understanding that the “key duplicating system” is a structure that physically interacts with key blanks. This is consistent with disclosures in the specification that key blanks are “cut by a cutting wheel.” *See, e.g.*, ’446 Patent at 16:17–19.

Also, the patentee expressed intent during prosecution that 35 U.S.C. § 112(f) does not apply. (*See* Dkt. No. 142, Ex. 14, Amendment at 24 (“These amendments clarify the claims by making it more clear that the elements are not intended as means-plus-function limitations”); *see id.* at 4 (replacing “for replicating” with “configured to replicate” in the term here at issue).) As

discussed above regarding the “key analysis system . . .” term, this intent is “documented in the prosecution history” and can be considered. *TEK Global*, 920 F.3d at 786.

For these reasons, and based on contextual analysis similar to the analysis set forth regarding the “key analysis system . . .” term addressed above, the disputed term does not amount to “purely functional” language as argued by Defendant. (Dkt. No. 151, at 29 (citing *SignTech*, 174 F.3d at 1356).) The phrase “key duplicating” refers to a well-established category of mechanical structures. *See Greenberg v. Ethicon Endo-Surgery, Inc.*, 91 F.3d 1580, 1583 (Fed. Cir. 1996) (finding that “detent mechanism” was not a means-plus-function term because “‘detent’ denotes a type of device with a generally understood meaning in the mechanical arts, even though the definitions are expressed in functional terms”; “What is important is not simply that a ‘detent’ or ‘detent mechanism’ is defined in terms of what it does, but that the term, as the name for structure, has a reasonably well understood meaning in the art.”). Defendant does not justify any limitation regarding how material is removed from a key blank, and the parties agree that key duplicating machines have been widely used for many years. (*See, e.g.*, Dkt. No. 142, Ex. 5, U.S. Patent No. 2,731,087.)

Finally, the Court rejects Defendant’s judicial estoppel argument for the same reasons set forth above as to the “configured to . . .” and “key analysis system . . .” terms. (*See* Dkt. No. 151, Ex. H, Sept. 18, 2013 Letter, at 6–7.)


Defendant thus fails to rebut the presumption against applying 35 U.S.C. § 112(f). Defendant presents no alternative proposal in the event that 35 U.S.C. § 112(f) does not apply, so no further construction is necessary.

The Court accordingly hereby construes “a key duplicating system within said kiosk configured to replicate the tooth pattern of the blade of said key inserted in said key-receiving entry” to have its **plain meaning**.

V. CONCLUSION

The Court adopts the constructions set forth in this opinion for the disputed terms of the patents-in-suit. The parties are ordered that they may not refer, directly or indirectly, to each other’s claim construction positions in the presence of the jury. Likewise, the parties are ordered to refrain from mentioning any portion of this opinion, other than the actual definitions adopted by the Court, in the presence of the jury. Any reference to claim construction proceedings is limited to informing the jury of the definitions adopted by the Court.

So ORDERED and SIGNED this 2nd day of July, 2020.



RODNEY GILSTRAP
UNITED STATES DISTRICT JUDGE